3. CHEMICAL AND PHYSICAL PROPERTIES

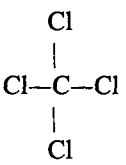
3.1 CHEMICAL IDENTITY

Table 3-1 lists common synonyms, trade names and other pertinent identification information for carbon tetrachloride.

3.2 PHYSICAL AND CHEMICAL PROPERTIES

Table 3-2 lists important physical and chemical properties of carbon tetrachloride.

TABLE 3-1. Chemical Identity of Carbon Tetrachloride

Characteristic	Information	Reference
Chemical name	Carbon tetrachloride	IARC 1979
Synonym(s)	Carbona; carbon chloride; carbon tet; methane tetrachloride; perchloromethane; tetrachloromethane; benzinoform	HSDB 1993
Registered trade name(s)	Benzinoform; Fasciolin; Flukoids; Freon 10; Halon 104; Tetraform; Tetrasol	IARC 1979
Chemical formula	CCl_4	IARC 1979
Chemical structure		IARC 1979
Identification numbers:		
CAS registry	56-23-5	NLM 1988
NIOSH RTECS	FG4900000	*HSDB 1992*
EPA hazardous waste	U211 D019	HSDB 1993
OHM/TADS	7216634	*HSDB 1992*
DOT/UN/NA/IMCO shipping	UN1846 IMCO 6.1	HSDB 1992
HSDB	53	HSDB 1992
NCI	No data	

CAS = Chemical Abstracts Services; DOT/UN/NA/IMCO = Department of Transportation/United Nations/North America/International Maritime Dangerous Goods Code; EPA = Environmental Protection Agency; HSDB = Hazardous Substances Data Bank; NCI = National Cancer Institute; NIOSH = National Institute for Occupational Safety and Health; OHM/TADS = Oil and Hazardous Materials/Technical Assistance Data System; RTECS = Registry of Toxic Effects of Chemical Substances

TABLE 3-2. Physical and Chemical Properties of Carbon Tetrachloride

Property	Information	Reference
Molecular weight	153.82	Lide 1992
Color	Colorless	Verschueren 1983
Physical state	Liquid	Verschueren 1983
Melting point	-23°C	Lide 1992
Boiling point	76.5°C	Lide 1992
Density	1.594 g/mL	Lide 1992
Odor	Aromatic, sweet	HSDB 1992
Odor threshold:		
Water	0.52 mg/L	IRIS 1993
Air	10–71,000 mg/m^3	Verschueren 1983
	96 ppm (600 mg/m^3)	Amoore and Hautala 1983
	60–1,500 mg/m^3	Ruth 1986
Solubility:		
Water at 20°C	800 mg/L	Verschueren 1983
Organic solvent(s)	Miscible	HSDB 1992
Partition coefficients:		
Log K_{ow}	2.64	EPA 1984
Log K_{oc}	2.04	Kenaga 1980
Vapor pressure at 20°C	90 mmHg	Verschueren 1983
Henry's law constant:		
at 25°C	2.94×10^{-2} atm-m^3/mol	Yaws et al. 1991
at 24.8°C	3.04×10^{-2} atm-m^3/mol	HSDB 1993
at 20°C	2.04×10^{-2} atm-m^3/mol	Tse et al. 1992
at 30°	3.37×10^{-2} atm-m^3/mol	Tse et al. 1992
Autoignition temperature	Nonflammable	HSDB 1992
Flashpoint	Nonflammable	HSDB 1992
Flammability limits	Nonflammable	HSDB 1992
Conversion factors		HSDB 1992
ppm (v/v) to mg/m^3 in air (25°C)	1 ppm = 6.39 mg/m^3	Verschueren 1983
mg/m^3 to ppm (v/v) in air (25°C)	1 mg/m^3 = 0.16 ppm	
Explosive limits	No data	